REMARKS

Claims 1-10 are currently pending in the application. By this Amendment, Figure 4 and claims 1 and 9 are amended for the Examiner's consideration. No new matter is added. Reconsideration of the rejected claims in view of the above amendments and the following remarks is respectfully requested.

Applicants submit that the amendments made to claims 1 and 9 are to correct grammatical errors, and do not raise any new issues that need further search and/or consideration. Accordingly, the amendment should be considered by the Examiner and entered into the record. Applicants also submit that the application is placed in condition for allowance or better form for appeal by these amendments.

References cited in the Specification

The Examiner indicated that the citation of references in the background section of the Specification is improper for consideration. However, Applicants note that these references are listed for purposes of general background information.

Objection to Drawings

Figure 4 was objected to for failing to show a label for the feature referenced as "420" in the specification. By this Amendment, Applicants submit a revised Figure 4 attached hereto which has been amended to include reference label 420. Accordingly the drawing amendments are for minor informalities as requested by the Examiner and do not raise new issues requiring a new search. The amendments are requested to be entered, and the objection should be withdrawn.

Objection to Claims

Claims 1 and 9 were objected to for informalities. By this Amendment, Claims 1 and 9 have been corrected for informalities by amending as requested by the Examiner. Accordingly the claim amendments are for minor informalities as requested by the Examiner and do not raise new issues requiring a new search. The amendments are requested to be entered, and the objections should be withdrawn.

35 U.S.C. §103 Rejection

Claims 1-6 and 8-10 were rejected under 35 U.S.C. §103(a) for being unpatentable over U. S. Patent No. 6,571,272 issued to Ferguson, *et al.* ("Ferguson") in view of U. S. Patent No. 6,061,728 issued to Mead, *et al.* ("Mead"), further in view of U.S. Patent No. 6,331,983 to Haggerty, *et al.* ("Haggerty"). Claim 7 was rejected under 35 U.S.C. §103(a) over Ferguson in view of Mead, further in view of Haggerty, and further in view of Applicant's admitted prior art. These rejections are respectfully traversed.

Applicants note that a §103 rejection requires the Examiner to first establish a prima facie case of obviousness: "The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness." M.P.E.P. § 2142. The Court of Appeals for the Federal Circuit has set forth three elements which must be shown for prima facie obviousness:

> To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both

be found in the prior art, and not based on applicant's disclosure.
In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Ferguson, Mead, or Haggerty do not show at a source DLSw access node, receiving from a source SNA node a first SNA request message for requesting the establishment of a SNA connection with a target SNA node, or at the source DLSw access node, locating a target DLSw access node, providing access to the target SNA node, and sending an undirected query over a spanning tree. Thus, the Examiner has failed to establish a prima facie case of obviousness.

As mentioned in the previous Amendment, the invention is directed to establishing a systems network architecture (SNA) connection between a source SNA node and a target SNA node through a packet switching network using data link switching (DLSw) access services. The source SNA node links to the network through a source DLSw node, and the target SNA node links to the network through a target DLSw node. An embodiment includes starting a SNA communication session by causing the source SNA node to issue to a source DLSw node a SNA test request message via a logical link control with media access control (MAC) and service access point (SAP) information for the target SNA node which is the destination of the communication.

In some circumstances, the source DLSw node has never previously located the target SNA node. Accordingly, the source DLSw node sends an undirected query onto the network which consists of broadcasting a location request control message in order to determine the location of the DLSw access agent at the target DLSw node that provides access to the target SNA node. Such an undirected directory search is performed over a network broadband service control point spanning tree, with a destination address of the target SNA node as a search parameter.

Once found, the target DLSw node having access to the target SNA resource, responds with a control message back to the source DLSw node the addressing information about the target DLSw node which provides access to the located target SNA node. Accordingly, an SNA communication session between a source SNA node and a target SNA node begins by the source

SNA node sending a request to its local router for the necessary addressing information. The local router than becomes the origin for the undirected query, and the undirected query is received and replied to by another router which has access to the target SNA node. Consequently, neither source or target SNA send or receive the undirected query in the claimed embodiments.

This is in contrast to Ferguson, which shows beginning a communication session between a source and destination by the source sending out an explorer frame over the networking to gather the necessary address information. Col. 3, Lns. 26-27., and Mead's method of establishing communication between a source host X and a target host Y by host X sending an explorer frame to determine the remote location of host Y. Col. 2, Lns. 9-10. Thus both Ferguson and Mead show an explorer frame originating from the SNA source, which is distinct from a request message originating therefrom, as in the claimed embodiments.

The Examiner asserts that Ferguson discloses that SNA devices transmit explorer frames (undirected query) in order to discover unknown paths. However, Ferguson shows transmitting an explorer frame from the SNA node. This is typical known prior art. The claims, in contrast, recite that at a source DLSw node, receiving from a source SNA node a first SNA request message. Transmitting a request message from the source SNA node clearly distinguishes over Ferguson's transmitting an explorer frame from the SNA node.

More specifically, Ferguson is directed to a correlating SNA-specific information related to a host and physical unit ("PU") such as a user's computer with IP-specific information relating to the DLSw routers to draw a multi-hop networking topology. The drawn topology is used to assist with problem isolation. In particular, Ferguson focuses on providing tools that enable a complete view of a network having multiple DLSw peer connections to be formed.

In operation, Ferguson determines the number of peer connections (DLSw circuit) "hops" in a network by matching data link ID's stored on management information databases with the media access control and service access point addresses of the host and PU entities retrieved from a host virtual telecommunication access method database. Once the number of DLSw

circuits has been identified, the Ferguson system verifies that the circuits have the same status, i.e., that all DLSw circuits are active if a PU session is active, and all the circuits are inactive if a session is inactive.

Once the active/inactive state of each circuit has been determined, the order of the DLSw peer routers is determined. DLSw peer router order is determined by examining the local route information field (RIF) acquired from each router. The RIF contains source information for each connection in the system. Once the order of the DLSw peer routers is determined, the topology of the DLSw network may be drawn which illustrates the relationship between the DLSw router and the SNA entities of the network. Drawing the topology allows a network management station to manage relationships between the entities for purposes of activating/deactivating those entities, etc.

Accordingly, Ferguson maps out the topology of the entire network using information from the RIFs at each router. Consequently, Ferguson does not disclose sending an undirected query over a spanning tree. Furthermore, Ferguson fails to show many of the claimed features of the invention, such as, for example, at a source DLSw access node receiving a message requesting the establishment of an SNA connection. In fact, Ferguson shows the source SNA node sending an undirected query, which is in direct contrast to the claims which show the source SNA node sending a request message.

Mead is directed to transparent bridging technology between local area networks having multi-proxy devices serving as entry points for communication across a wide area network. The Examiner asserted that Mead shows all-route-explorers which broadcast an explorer frame to discover a route to a host node at column 1, lines 16-36; column 2, line 7-19; and column 2, lines 45-67. However, Mead actually shows transparent bridging technology for interconnecting local area networks, rather than connecting a source node and target node across a local area network and wide area network for communication, as in the claimed embodiments.

In operation, the Mead system learns the network topology by analyzing the source addresses of incoming frames from all attached networks. Through this process, transparent

bridges which are mechanisms for interconnecting local area networks, build forwarding tables that can be used for traffic forwarding. Once a table is built, the bridge can forward a frame by looking up the frame's destination address in the forwarding table. If no association is found, the frame is flooded to all ports except the inbound port.

Mead notes that one technique to learn a route through a bridge includes all-route explorers where a host sends an explorer frame which travels throughout the network to determine the remote location of host Y, and host Y replies to each received explorer frame using the accumulated route information. Host X then receives all of the response frames that specify the respective paths, and chooses a path based on predetermined criteria. This is in contrast to the claimed embodiments whereby a source host sends a request message to a DLSw node which causes the DLSw node to create and transmit an undirected query. Additionally, the undirected query of the claimed embodiments is never received by the target SNA node but is rather received and returned by a target DLSw node.

The Examiner next asserts that Haggerty teaches that spanning trees reduce the number of messages transmitted during a broadcast through a network. However, Haggerty is actually directed to multi-cast switching where a source receives a multi-cast packet on a access port from a source host, and determines a group address in the multi-cast packet. The Haggerty system then composes and sends a sender present message to other switches on its port. Haggerty fails to disclose or mention in any way "explorer frames" and "undirected queries." As such, Haggerty fails to cure the deficiencies of Ferguson and Mead discussed above where an SNA node sends a message request to a DLSw node which then sends an undirected query to a spanning tree.

As discussed above, Ferguson uses addressing information collected from messages passing through routers to draw a topology of the network. As also discussed above, Mead has a host X send an explorer frame to determine the remote location of a host Y. Finally, Haggerty fails to mention explorer frames and undirected queries altogether. Accordingly, for the reasons set forth above, neither Ferguson, Mead nor Haggerty, either alone or in combination, disclose or

suggest at a source DLSw access node receiving from a source SNA node a first SNA request message for requesting the establishment of a SNA connection with a target SNA node, and at a source DLSw access node, locating a target DLSw access node providing access to target SNA node sending an undirected query over a spanning tree, as set forth in Claim 1.

Additionally, none of the references, alone or in combination, disclose or suggest receiving from a source SNA node a first SNA request message for requesting the establishment of an SNA connection with a target SNA node locating a target DLSw access node providing access to the target SNA node and using the access services for sending an undirected query over a spanning tree, as set forth in Claim 8.

Finally, none of the references either alone or in combination set forth receiving from a source DLSw access node or first SNA request message, the SNA request message requesting establishment of an SNA connection to a target SNA node, and sending an undirected query from said source DLSw access node over a spanning tree to locate a target DLSw access node, as set forth in Claim 9.

Consequently, the rejections of Claims 1, 8 and 9 should be withdrawn. Claims 2-6 and 10 are allowable at least for the reasons discussed above with respect to independent claims 1 and 9, from which the respectively depend, as well as for their added features. Applicants respectively request that the rejection of Claims 1-6 and 8-10 be withdrawn.

The Examiner also rejected Claim 7 under 35 U.S.C. §103(a) over Ferguson in view of Mead and further in view of Haggerty and further in view of applicants admitted prior art. In the rejection of claim 7, the Examiner cites Applicants' admitted prior art for showing that network broadband service (NBBS) is a well known fast packet switching network. Applicants respectfully submit that regardless of whether an NBBS is a well known fast rocket switching network, the admitted prior art fails to cure the deficiencies of Ferguson, Mead and Haggerty, as discussed above. Accordingly, Claim 7 is in allowable condition and the rejection should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant submits that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicant hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 09-0457

Respectfully submitted,

Randall H. Cherry
Registration No. 51,556

Andrew M. Calderon
Registration No. 38,093

McGuireWoods, LLP
Suite 1800
1750 Tysons Blvd.
McLean, VA 22102
(703) 712-5426